printing head. For this purpose, a printing condition detector is mounted on a carriage moving in a primary scanning direction, and a printing head is mounted replaceably on the carriage. An image printed on a printing medium by the printing head is detected by the printing condition detector, and the printing head is controlled according to the detection result.--

IN THE CLAIMS:

Please cancel Claim 6 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1-5 and 7-11 as follows. A marked-up copy of Claims 1-5 and 7-11, showing the changes made thereto, is attached. Note that all the claims currently pending in this application, including those not presently being amended, have been reproduced below for the Examiner's convenience.

1. (Amended) A printing apparatus for printing an image on a printing medium while relatively moving at least one of a printing head provided with an array of a plurality of printing elements and the printing medium, said apparatus comprising:

a carriage mounting said printing head, and movable relative to the printing medium in a scanning direction crossing said array of said plurality of printing elements;

detection means mounted on said carriage for detecting printing positions of an array of printed pixels corresponding to said array of said plurality of printing elements; and

control means for controlling drive timing of said plurality of printing elements according to detection results of said detection means so as to make printing positions of subsequently printed pixels close to a predetermined center position.

2. (Amended) The printing apparatus as claimed in Claim 1, wherein said control means controls the drive timing of said plurality of printing elements so as to make deviation amounts of the printed pixels in the scanning direction to be equal or less than one of the printed pixels in size.

3. (Amended) The printing apparatus as claimed in Claim 1, wherein said printing head is replaceably mounted on said carriage, and said detection means is mounted fixedly on a predetermined position of said carriage.

4. (Amended) The printing apparatus as claimed in Claim 1, further comprising:

moving means for moving said carriage in a primary scanning direction; and

transportation means for transporting the printing medium in a secondary scanning direction crossing the primary scanning direction.

5. (Amended) The printing apparatus as claimed in Claim 1, wherein said plurality of printing elements of said printing head are arranged in a direction crossing the scanning direction when said printing head is mounted on said carriage; and

said detection means has a plurality of detection elements arranged at predetermined positions of said carriage so as to be arranged along a specified direction crossing the scanning direction.

Claim 6 cancelled herein.

7. (Amended) The printing apparatus as claimed in Claim 1, wherein said detection means is movable with a plurality of printing heads, and is provided commonly to said plurality of printing heads so as to detect images printed by respective printing heads of said plurality of printing heads; and

said control means controls said plurality of printing heads according to detection results of said detection means.

8. (Amended) The printing apparatus as claimed in Claim 1, wherein said detection means comprises a light source for irradiating light to the printing medium and a photoelectric conversion device for receiving reflected light from the printing medium.

9. (Amended) The printing apparatus as claimed in Claim 1, wherein said printing head is an ink-jet printing head provided with said plurality of printing elements, which are capable of ejecting ink.

10. (Amended) The printing apparatus as claimed in Claim 9, wherein said printing elements of said ink-jet printing head comprise electrothermal converters for generating thermal energy as ink ejection energy.

11. (Amended) A printing method for printing an image on a printing medium while relatively moving at least one of a printing head provided with an array of a plurality of printing elements and the printing medium, comprising the steps of:

relatively moving at least one of the printing head and the printing medium in a scanning direction crossing the array of the printing elements so that an array of printed pixels corresponding to the array of the printing elements is printed on the printing medium;

detecting printing positions of the array of printed pixels; and

controlling drive timing of the plurality of printing elements according to detection results of the printing positions so as to make printing positions of subsequently printed pixels close to a predetermined center position.